WHAT IS CLAIMED IS:

1. A polymeric sponge including cellulose fibers imbedded therein.

2. A sponge according to claim 1 wherein said cellulose fibers are chemically bonded therein.

3. A sponge according to claim 2 comprising a water-catalyzed prepolymer.

4. A sponge according to claim 3 wherein said polymer comprises polyurethane.

5. A sponge according to claim 3 wherein said polymer comprises polyether toluene disocyanate polyurethane.

6. A sponge according to claim 3 comprising primarily only closed cells therein.

7. A sponge according to claim 3 excluding surfactant therein.

8. A sponge according to claim 3 further comprising abrasive particles imbedded therein.

9. A sponge according to claim 8 excluding bonding agent on said abrasive particles.

10. A sponge according to claim 8 wherein said abrasive particles are bonded in said polymer.

11. A sponge according to claim 10 wherein said cellulose fibers are dispersed in said polymer between adjacent ones of said abrasive particles.

12. A sponge according to claim 10 comprising a composition by weight of about 79% abrasive particles, about 18% prepolymer, about 2% catalyzing-water, and about 1% cellulose fiber.

13. A sponge according to claim 10 comprising catalyzing-water and cellulose fiber in a weight ratio of about 2:1.

14. A sponge according to claim 10 comprising catalyzing-water less than about 2% by weight.

15. A sponge according to claim 3 wherein said polymer comprises polyether toluene disocyanate polyurethane in a matrix comprising primarily only closed cells.

16. A sponge according to claim 15 further comprising abrasive particles bonded in said polymer, and said cellulose fibers are dispersed in said polymer between adjacent ones of said abrasive particles.

17. A sponge according to claim 16 comprising a composition by weight of about 79% abrasive particles, about 18% prepolymer, about 2% catalyzing-water, and about 1% cellulose fiber.

18. A sponge according to claim 17 excluding surfactant therein, and excluding bonding agent on said abrasive particles.

19. A polymeric sponge comprising water-catalyzed polyether toluene disocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer.

20. A sponge according to claim 19 excluding abrasive particles therein.

21. A sponge according to claim 19 further comprising abrasive particles bonded in said polymer.

22. A sponge according to claim 21 comprising a composition by weight of about 79% abrasive particles, about 18% prepolymer, about 2% catalyzing-water, and about 1% cellulose fiber.

23. A method of making a polymeric sponge including integral cellulose fibers comprising:

mixing water and cellulose fibers;

mixing a water-catalyzing prepolymer with said water and cellulose mixture for chemical reaction thereof;

curing said reacting mixture to form said polymeric sponge including said integral cellulose fibers therein; and

granulating said sponge.

24. A method according to claim 23 further comprising premixing said water and cellulose fibers prior to mixing with said prepolymer to suspend said fibers substantially uniformly in said water.

25. A method according to claim 24 wherein said cellulose fibers are hydrophilic and absorb more than their weight in water during said premixing thereof with said water.

26. A method according to claim 25 further comprising releasing said absorbed water from said cellulose fibers in said chemical reaction with said prepolymer.

27. A method according to claim 26 wherein said water, fibers, and prepolymer are mixed without abrasive particles, and without the use of

auxiliary heating or cooling thereof during said chemical reaction.

28. A method according to claim 26 further comprising mixing abrasive particles with said prepolymer, water, and fibers for said chemical reaction thereof.

29. A method according to claim 28 wherein said particles are premixed with said prepolymer prior to mixing with said premixed water and fibers.

30. A method according to claim 29 further comprising heating said prepolymer and particles prior to mixing with said water and fibers.

31. A method according to claim 30 further comprising cooling said water and fibers prior to mixing with said prepolymer and particles.

32. A method according to claim 31 wherein said prepolymer and particles are separately heated prior to mixing thereof.

33. A method according to claim 32 wherein said prepolymer and particles are heated to about the same temperature.

34. A method according to claim 33 wherein said prepolymer and particles are heated to about 100 degrees (F).

35. A method according to claim 34 wherein said water and fibers are premixed in a weight ratio of about 2:1.

36. A method according to claim 35 wherein said water and fibers are cooled to about 55 degrees (F) prior to mixing with said heated prepolymer and particles.

37. A method according to claim 36 wherein said abrasive particles, prepolymer, water, and cellulose fibers are mixed by weight of about 79%, 18%, 2%, and 1%, respectively.

38. A method according to claim 37 wherein said prepolymer comprises polyether toluene disocyanate polyurethane.

39. A method according to claim 31 wherein said particles are mixed with said prepolymer without a bonding agent.

40. A method according to claim 31 further comprising extruding said mixed prepolymer, particles, water, and cellulose fibers in an elongate bun atop a moving conveyer belt as said chemical reaction progresses.

41. A method according to claim 40 further comprising dispensing a plastic sheet between said bun and belt to prevent sticking of said bun to said belt.

42. A method according to claim 40 further comprising:
cutting said bun into shorter slabs at the end of said belt; and
storing said slabs for a plurality of days for final curing thereof.

43. A method according to claim 42 further comprising in turn shredding said slabs into smaller pieces, granulating said pieces into smaller granules, and classifying said granules into substantially uniform size.